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10/524,409	02/14/2005	Hag Sin Kim	3449-0445PUS1	4450
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EXAMINER				
ST CLAIR, ANDREW D				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/524,409

Applicant(s)

KIM, HAG SIN

Examiner

ANDREW ST CLAIR

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF/86)
Paper No(s)/Mail Date 2/14/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

First, with respect to the entirety of the claims, there are numerous simple grammatical errors which compound to render the claims indefinite, as being unclear. For instance, claim 1 recited "...system in electric oven," which should be --in an electric oven--, and "to sense opening and closing of the door" which should be --to sense the an opening and closing of the door." Claim 13 recites "to rotate at a predetermined angle," which should be --to rotate to a predetermined angle--. This is not an exhaustive transcription; applicant should thoroughly check the claims for such grammatical errors.

With respect to claim 1, the recitation of "the door is latched to the latch" is indefinite. It is unclear how the door can be "latched" to a structure which is depicted as an integral part of the door. It appears that the limitation may be an inadvertent error, perhaps intended to say "such that the door is latched to the oven," or "such that a latch hooking unit is latched to the door."

With respect to claims 1 and 13, it is unclear what component is a "latch guide unit." While the term is discussed in the specification, no numeral could be found to associate the description with the figures. It is unclear what structural element shown in the figures, if any, is the latch guide unit.

With respect to claim 2, it is unclear in what way a three dimensional object could have a circular shape, circular being a two dimensional shape. As such, all three dimensional objects could be said to have a "noncircular shape." It appears that applicant may have intended to limit the cross-sectional shape, however such language is not present in the claim.

With respect to claim 4, it is unclear how a guide shaft can be inserted "with a predetermined interval being intervened therebetween."

With respect to claim 5, it is unclear what is meant by "layered up and down." The terminology is not explained in the specification and it is unclear how it has any applicability to the apparatus shown in the figures.

With respect to claim 7, it is unclear what component is "a guide unit." It appears to be claimed as a distinct element from the "latch guide unit," however it is not mentioned in the specification and no numeral is assigned to it for the purpose of illustrating where it is in the figures.

With respect to claim 8, it is unclear in what way a protrusion can increase "a contact degree with the latch."

With respect to claims 9, 10, and 11, the recitation of "the other side" is without proper antecedent basis. Also, a recitation of "the other side" is considered to be indefinite without a recitation of "a first side," in the same way that, for instance, a recitation of "a second valve" would be indefinite without a recitation of "a first valve."

With respect to claim 11, the claim recites "two step switches" and then goes on to refer to "the step switch." It is unclear which of the two step switches is referred to. It is unclear what components comprise "two switch contacts provided at the switch," assuming that "the switch"

refers to the switch of the interlocking structure they don't appear to be depicted in the figures or enumerated in the Detailed Description. It is also unclear in what way two switch contacts provided in the interlocking structure would sequentially operate a step switch provided in the door locking structure. As a whole this claim is considered highly indefinite, it appears to have antecedent basis problems, impermissible interchanging terminology, and lack of clear relationship of components.

With respect to claim 12, it is unclear in what way any two switches are "layered." It is also unclear in what way "the switch" comprises two switches. "The switch," as recited in the claims appears to refer to the switch of the interlocking structure, whereas the switches of the door locking structure are referred to as "step switches." It appears that there may be a mixing of terminology, because the door locking structure is depicted as having two switches, rather than the interlocking structure.

With respect to claim 13, the recitation of "being rotated in both directions" is unclear because the directions are undefined. Any object that exists in three dimensions could be rotated an infinite number of "directions." The recitation of "inserted/released" is also indefinite because it is unclear when the motor is rotated; it could be when the latch is inserted or released, when the latch is inserted and released, when the latch is inserted and subsequently released, or it the notation could be taken to mean that "inserted" and "released" are interchangeable terms for the same action. It is also unclear in what way the latch guide unit is inserted into the rotary unit. It is also unclear in what way the motor is rotated; it appears as though the motor is stationary and the rotary shaft is rotated.

With respect to claim 17, the recitation of "associated with one another by each of bars extended vertically" is indefinite because is idiomatic English and it is unclear which components comprise "bars extended vertically."

With respect to claim 18, the recitation of "after the door is closed by the second door opening and closing structure" is indefinite because it is unclear how the second door opening and closing structure, which is described and depicted as a switch system, is capable of closing the door. It appears that this recitation is idiomatic, that the actual function of the system is to sense a closed door, not to actually close the door.

With respect to claim 21, the recitation of "a plurality of step switches provided at a predetermined position of the rotary lever contacting the switch, for allowing the switch to perform a switching operation" is indefinite because it is unclear how a plurality of switches allow another switch to perform a switching operation, it is unclear in what manner a plurality of step switches contact the switch, such switches not being depicted in any of the figures or described in the specification.

With respect to claim 23, it is unclear how a switch can be "a plurality of micro-switch."

With respect to claim 24, the claim recites "all switches," yet depends from claim 18 which recites only one switch. It is unclear how many switches are claimed and it is unclear which of them performs the switching operation in which all the switches are switched on.

With respect to claims 18-24 in general, any recitation of more than one switch in the second door opening structure is considered indefinite because only one switch is depicted in the applicable figures and described in the specification.

With respect to claims 1-24, the extent of the indefiniteness described above is not an exhaustive transcription of such problems. Applicant has the burden of presenting claims which are in the proper form for examination. Despite the indefiniteness issues, prior art is applied to the greatest extent possible for the purpose of furthering prosecution.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 13-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Kauranen et al. (US 3,889,654).

With respect to claim 13, Kauranen et al. disclose a door opening and closing system in an electric oven, the system comprising: a latch 65 provided at one side surface of a door; a first door opening and closing structure having a motor 68, a rotary unit 67, and a latch guide unit 66, the rotary unit being engaged to a rotary shaft (see fig. 3) of the motor to rotate at a predetermined angle, and the latch guide unit having one end inserted into the rotary unit at a predetermined position and the other end latched to the latch (see fig. 3, see also the indefiniteness rejection above, the latch guide unit is considered to be "inserted into the rotary unit" in the same way that applicant's apparatus is, i.e. joined with a pin.); and a second door opening and closing structure 74 provided at a position adjacent to the latch. With respect to the recitation of "to indicate an opening and closing state of the door," this is considered to be a

recitation of intended use. A recitation of the intended use of the claimed invention must result in a definite structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use it is considered to disclose the claim limitation. In the instant case, the handle is considered capable of indicating whether the door is opened or closed as seen in figures 1 and 4, it is horizontal when the oven is closed and points downward when it is open. With respect to the recitation of "the motor being rotated in both directions when the latch is inserted/released," see the above indefiniteness rejection; this is the furthest extent to which prior art can be applied given the highly indefinite nature of the claim.

With respect to claim 14, Kauranen et al. disclose the claimed subject matter further comprising: at least one protrusion provided at a circumference of the rotary unit (see fig. 3, the rotary unit has two protrusions); and at least one micro-switch 70 provided at a corresponding position of the protrusion, for sensing a rotation degree of the rotary unit by using a displacement of the protrusion.

With respect to claim 15, Kauranen et al. disclose the claimed subject matter wherein the first door opening and closing structure is closed after it is sensed that the door is closed by the second door opening and closing structure. This recitation is considered to be a functional claim limitation; prior art is considered to anticipate a functional claim limitation if is capable of performing the claimed function. In the instant case, the user of the oven can initiate a self-cleaning operation after viewing that the door is closed, thereby triggering the locking structure, as described in column 3, lines 53-64.

With respect to claim 16, Kauranen et al. further disclose the claimed subject matter wherein the first door opening and closing structure is closed when the electric oven performs a pyrolysis operation. (col. 3, ln. 53-64.)

With respect to claim 17, Kauranen et al. further disclose the claimed subject matter wherein the motor, the rotary unit and the latch guide unit are associated with one another by each of bars extended vertically. (see fig. 3, the pins joining latch guide unit 66 to the rotary unit 67 and latch hooking unit 61 are considered to be "bars extended vertically.")

5. Claims 18-20, 22, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Umezu et al. (US 3,715,554).

With respect to claim 18, Umezu et al. disclose a door opening and closing system in electric oven (see fig. 7), the system comprising: a protrusion 77 protruded from one side surface of a door; a second door opening and closing structure having a rotary lever 73, 78, a switch 79, and an elastic member 75, the rotary lever rotating in contact with the protrusion when the door is closed, the switch sequentially contacting with the rotary lever to perform a plurality of switching operations when the rotary lever is rotated, the elastic member applying one direction elastic force (spring is in tension, applying a force to the rotary lever) to the rotary lever to indicate a position of the rotary lever; and a first door opening and closing structure 72a maintaining the door to be in a locking state after the door is closed by the second door opening and closing structure.

With respect to claim 19, Umezu et al. further disclose the claimed subject matter further comprising: a rotary guide protrusion 78 provided at one side of the rotary lever to be extended toward the protrusion.

With respect to claim 20, Umezu et al. further disclose the claimed subject matter further comprising: a step unit 78 provided at a predetermined position of the rotary lever contacting with the switch.

With respect to claim 22, Umezu et al. further disclose the claimed subject matter wherein the switch has a monitor switch contact 79b and a primary switch contact 78.

With respect to claim 24, Umezu et al. further disclose the claimed subject matter wherein when all switches are switched on during a switching operation of the switch, it is sensed that the door is closed. (see Abstract).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kauranen et al. (US 3,889,654) in view of Umezu et al. (US 3,715,554).

With respect to claim 1, Kauranen et al. disclose a door opening and closing system in electric oven (see figs. 1 and 3), the system comprising: at least one latch 65 provided at one side surface of a door; a door locking structure having a motor 68, a rotary unit 67, and a latch guide unit 66, the rotary unit being engaged with and rotated about a rotary shaft of the motor (see fig. 3), and the latch guide unit being associated with the rotary unit to change a rotation motion of the rotary unit into a straight-line motion such that the door is latched to the latch to prevent an erroneous opening of the door. (see Abstract; "...to prevent the door from being opened..."). Kauranen et al. does not disclose a door interlocking structure. Umezu et al. disclose a door interlocking structure (see figs. 7) having a rotary lever 73, 78, a switch 79, and an elastic spring 75 to sense opening and closing of the door, the rotary lever being pushed by the latch to rotate about one side, the switch sequentially contacting with the rotary lever, and the elastic spring allowing the rotary lever to be supported in one direction (col. 5, ln. 11-37; the spring applies tension). Umezu et al. further discloses motivation to combine. (col. 1, ln. 19-21; to deenergize the oven when the door is opened.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the door locking oven of Kauranen et al. with the interlocking structure of Umezu et al. for the purpose of deenergizing the oven when the door is opened. With respect to the recitation of "the motor being rotated after it is sensed that the door is closed by the door interlocking structure," Kauranen et al. provides that the motor is rotated when the oven temperature is above a certain point, and Umezu et al. turns the oven off when the door is opened, thus it is inherent that in the combined apparatus the motor would only be rotated after it is sensed that the door is closed.

With respect to claim 2, Kauranen et al. further discloses the claimed subject matter wherein the rotary shaft has a noncircular shape and is inserted into the rotary unit. (see figs. 2 and 3, the rotary shaft appears to be cylindrical, which is considered to be "noncircular.")

With respect to claim 3, Kauranen et al. disclose the claimed subject matter further comprising: at least one contact protrusion provided at a predetermined position of the rotary unit (see fig. 3, the rotary unit 67 has two contact protrusions); and at least one micro-switch 70 provided at a corresponding position of the contact protrusion to indicate a motion position of the latch guide unit.

With respect to claim 4, Kauranen et al. disclose the claimed subject matter further comprising: a guide shaft protruded from one side of the latch guide unit; and a guide shaft hole provided at the rotary unit, for inserting the guide shaft with a predetermined interval being intervened therebetween. (see fig. 3, the shaft or pin joining the latch guide unit 66 to the rotary unit 67 is considered to be "a guide shaft," the hole it is inserted through in the rotary unit is considered "a guide shaft hole.")

With respect to claim 5, Kauranen et al. disclose the claimed subject matter wherein the motor, the rotary unit and the latch guide unit are layered up and down. (Fig. 1, the motor 68, the rotary unit 67, and the latch guide unit 66 are stacked one above the other, thus creating "layers.")

With respect to claim 6, Kauranen et al. further discloses the claimed subject matter comprising a latch hooking unit 61 bent and angled with a length direction of the latch guide unit at the other end of the latch guide unit, for hooking the latch. (see fig. 3, latch hooking unit 61 is considered to be "bent" in that it has a bend in it. To the extent that this limitation is intended as

a product-by-process limitation, the latch hooking unit could be formed by bending and thus is considered to anticipate the claim limitation.)

With respect to claim 7, Kauranen et al. further discloses the claimed subject matter further comprising: a guide unit 62 provided at a body of the latch guide unit, for inserting a protrusion to guide a straight- line motion of the latch guide unit.

With respect to claim 8, Umezu et al. further disclose the interlocking structure further comprising a rotary guide protrusion 78 extended from a body of the rotary lever toward the latch, for increasing a contact degree with the latch. Motivation to combine is provided in the rejection of claim 1.

With respect to claim 9, Umezu et al. further disclose the claimed invention further comprising a step protrusion 78 stepped at the other side of the rotary lever.

With respect to claim 10, the apparatus of Kauranen et al. in view of Umezu et al. further discloses the claimed subject matter further comprising: two switch contacts stepped at the other side of the rotary lever. (see fig. 3 of Kauranen et al.; the rotary unit 67 has two switch contacts, and would be located at "the other side" of the rotary lever in the modified apparatus of Kauranen et al. in view of Umezu et al.)

With respect to claim 11, the apparatus of Kauranen et al. in view of Umezu et al. further discloses the claimed subject matter further comprising: two step switches 70, 71 provided at the other side of the rotary lever; and two switch contacts provided at the switch, for sequentially operating by the step switch. (see the above indefiniteness rejection, this is the greatest extent to which prior art can be applied to this claim given its highly indefinite nature.)

With respect to claim 12, Kauranen et al. further discloses the claimed subject matter wherein the switch is two micro-switches 70, 71 layered.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW ST CLAIR whose telephone number is (571)270-3513. The examiner can normally be reached on Monday - Friday, 8 a.m. - 6 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on 571-272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew St.Clair/
Examiner, Art Unit 3749

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